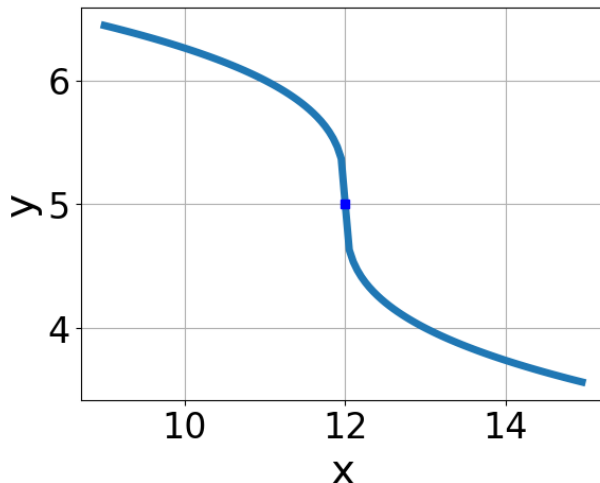1. Choose the equation of the function graphed below.

A. $f(x) = -\sqrt{x - 12} + 5$

B. $f(x) = \sqrt{x - 12} + 5$

C. $f(x) = -\sqrt{x + 12} + 5$

D. $f(x) = \sqrt{x + 12} + 5$

E. None of the above

---

2. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-14x^2 + 15} - \sqrt{-11x} = 0$$

A. $x \in [-0.94, -0.59]$

B. $x \in [1.22, 2.18]$

C. All solutions lead to invalid or complex values in the equation.

D. $x_1 \in [-0.94, -0.59]$ and $x_2 \in [0.5, 4.5]$
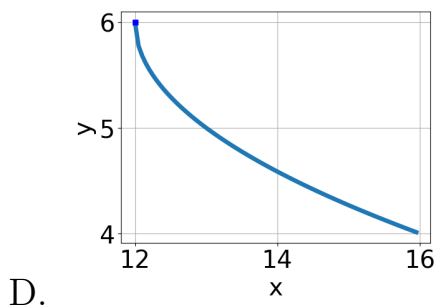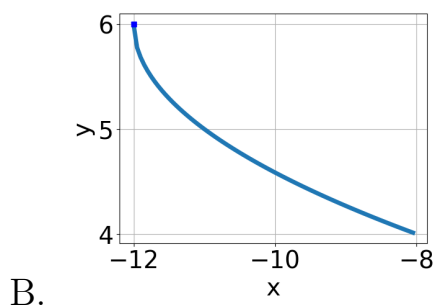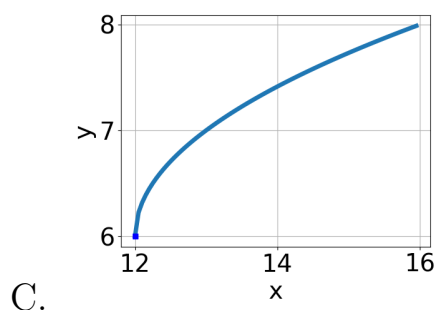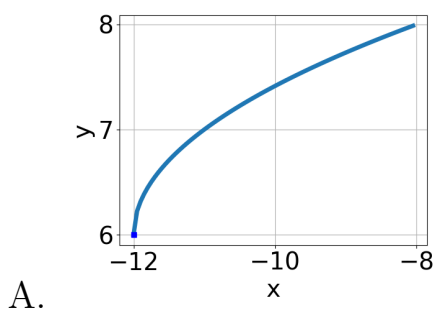
E. $x_1 \in [0.64, 0.89]$ and $x_2 \in [0.5, 4.5]$

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3. What is the domain of the function below?

$$f(x) = \sqrt[4]{-4x + 6}$$

A. $[a, \infty)$, where $a \in [1.04, 1.63]$

B. $(-\infty, a]$, where $a \in [0.13, 0.89]$

C. $(-\infty, \infty)$

D. $(-\infty, a]$, where $a \in [1.08, 2.35]$

E. $[a, \infty)$, where $a \in [-0.35, 1.23]$

---

4. Choose the graph of the equation below.

$$f(x) = \sqrt{x + 12} + 6$$
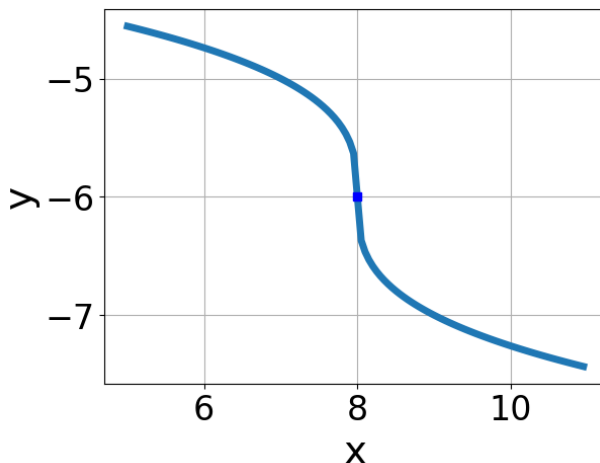
A.

C.

B.

D.

E. None of the above.

---

5. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-6x - 4} - \sqrt{-8x + 4} = 0$$

A. $x_1 \in [-0.97, -0.43]$ and $x_2 \in [-0.5, 1.5]$

B. All solutions lead to invalid or complex values in the equation.

C. $x \in [-0.5, 0.24]$

D. $x_1 \in [-0.97, -0.43]$ and $x_2 \in [1, 10]$

E. $x \in [2.34, 4.82]$

---

6. Choose the equation of the function graphed below.

A. $f(x) = \sqrt[3]{x - 8} - 6$

B. $f(x) = \sqrt[3]{x + 8} - 6$

C. $f(x) = -\sqrt[3]{x + 8} - 6$

D. $f(x) = -\sqrt[3]{x - 8} - 6$

E. None of the above

---

7. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{-9x + 6} - \sqrt{-2x + 8} = 0$$

A. All solutions lead to invalid or complex values in the equation.

B. $x_1 \in [-1.48, -0.24]$ and $x_2 \in [-2.33, 3.67]$

C. $x_1 \in [0.49, 1.27]$ and $x_2 \in [2, 5]$

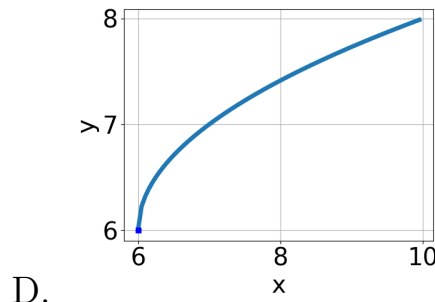D. $x \in [-1.48, -0.24]$
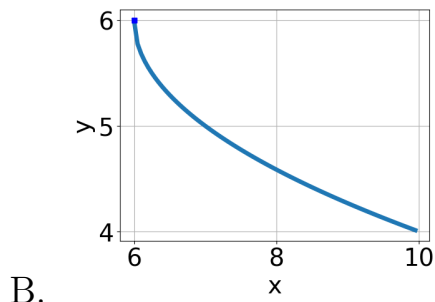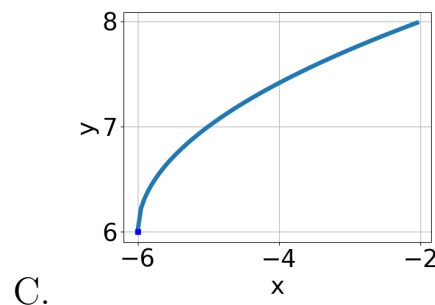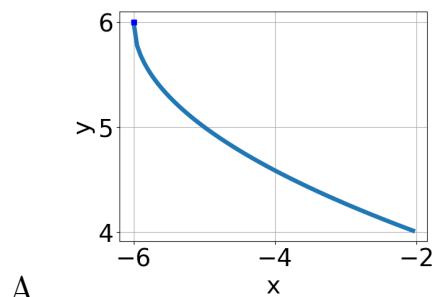
E. $x \in [1.6, 2.51]$

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8. What is the domain of the function below?

$$f(x) = \sqrt[7]{7x - 4}$$

A. The domain is $[a, \infty)$, where $a \in [-0.24, 1.15]$

B. The domain is $(-\infty, a]$, where $a \in [1.1, 2.2]$

C. The domain is $[a, \infty)$, where $a \in [0.88, 2.58]$

D. $(-\infty, \infty)$

E. The domain is $(-\infty, a]$, where $a \in [-0.2, 1.7]$

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9. Choose the graph of the equation below.

$$f(x) = -\sqrt{x + 6} + 6$$

A.

C.

B.

D.

E. None of the above.

---

10. Solve the radical equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\sqrt{16x^2 + 49} - \sqrt{-70x} = 0$$

A. $x_1 \in [-4.5, -2.6]$ and $x_2 \in [-2.88, 1.12]$

B. All solutions lead to invalid or complex values in the equation.

C. $x \in [-4.5, -2.6]$

D. $x_1 \in [0, 4.5]$ and $x_2 \in [3.5, 6.5]$

E. $x \in [-1.7, 0.8]$